DATA 698 – Final Project Proposal

Comparing the spread of Covid-19 cases in 2 states – New York and California

Deepak Mongia

17-Oct-2020

Introduction

A new coronavirus emerged in China towards the end of 2019 which led to the new disease Covid-19, which has completely changed the face of the earth. With its initial roots in China, it spread around the world starting January 2020, with US reporting the first case of Covid-19 on January 20, 2020. By March, the disease was already spreading like a wild fire, and World Health Organization (W.H.O.) declared Covid-19 a pandemic. Covid-19 has changed the world and lives across the world. Governments across the world have adopted many measures to try containing the spread of the covid-19 in their respective countries or states / provinces. These measures include but are not limited to lockdowns, face covering or masks mandates, schools closing and many other measures. The countries which took initial strict measures were able to control the Covid-19 affected counts in their respective countries.

This project will look into detail the spread of coronavirus in the 2 US states – New York and California. New York was one of the worst effected states in the initial few months of the spread of the coronavirus. However New York later on managed to bring the new increase in cases under control beyond May. In case of California, the situation was not as bad as New York until the month of May, and then after May, California had a huge surge in the cases. We will explore the government policies in the 2 states to understand further what actually caused the initial huge increase in NY cases, and then later on the control in cases in NY, and why California had a huge increase later on after May.

We will go into detail for these 2 states to understand what actually helps overall from the government perspective to contain the spread of coronavirus. We will explore the dataset from Oxford University in regards to the Government Policy tracker over time for the 2 states. We are getting our overall counts data from John Hopkins University.

Problem

The question we are dealing with in this project is – Why 2 states California and New York behaved differently when we compare their overall Coronavirus affected counts ? Which government policies help and which don’t to contain the spread of the coronavirus ?

Data

We will use the following data sources for our research around the topic mentioned.

1. COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University

<https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data>

1. Oxford University data for – USA state level Covid-19 Policy Responses

<https://github.com/OxCGRT/USA-covid-policy>

1. Oxford University data Covid policy tracker

<https://github.com/OxCGRT/covid-policy-tracker/tree/master/data>

Literary Review:

1. To mask or not to mask: Modeling the potential for face mask use by the general public to curtail the COVID-19 pandemic – by Steffen E.Eikenberry, Marina Mancuso, Enahoro Iboi, Tin Phan, Keenan Eikenberry, Yang Kuang, Eric Kostelich, Abba B.Gumel

<https://www.sciencedirect.com/science/article/pii/S2468042720300117>

1. Association of country-wide coronavirus mortality with demographics, testing, lockdowns, and public wearing of masks – by Christopher T. Leffler, Edsel Ing, Joseph D. Lykins V, Matthew C. Hogan, Craig A. McKeown, Andrzej Grzybowski

<https://www.medrxiv.org/content/10.1101/2020.05.22.20109231v5.full.pdf>

Methodology:

We will be getting the data from the John Hopkins University dataset – timeseries data over the days for months of all the counties of the US how the affected counts moved. Side by side we will also consume the data related to the mask usage. We are using 2 data sources for mask usage:

1. Oxford Government Policy data – given above
2. NY Times mask wearing survey data – <https://github.com/nytimes/covid-19-data/tree/master/mask-use>

We will explore the various government policy measures for the 2 states, compare them and understand the spread of the coronavirus cases in the 2 states.